



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,358	11/17/2003	Xiandong Wang	08935-295001	7033
26161	7590	07/11/2007		
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER WILLS, MONIQUE M	
			ART UNIT 1745	PAPER NUMBER
			MAIL DATE 07/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/716,358	<b>Applicant(s)</b> WANG ET AL.	
	<b>Examiner</b> Monique M. Wills	<b>Art Unit</b> 1745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 July 0427.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 and 42-52 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21, 24-26, 31 and 42-48 is/are allowed.
- 6) ☒ Claim(s) 22-23, 27-30 & 32-35, 49-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/9/07</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

This Office Action is responsive to the Amendment filed April 27, 2007.

The pending claims are treated as follows:

- The rejection of claims 1-5, 10-16, 19, 22, 24, 26, 28-31 & 42-52 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4-7, 9-10, 12-13, 15-16, 18-21 & 22-23 of U.S. Patent No. 10/913,922, is overcome.
- The rejection of claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is overcome.
- Claims **1-9 & 42-44** are allowable over the prior art of record, because the prior art is silent to a primary battery comprising a cathode with an oxide containing the metals of the composition of claim 1.
- The rejection of claims **22-23 & 27-30, 32-35 & 49-52** are rejected under 35 U.S.C. 102(b) as being anticipated by Passaniti et al. U.S. Patent 6,001,508 is withdrawn.

### ***Double Patenting***

The Terminal Disclaimer filed August 28, 2006 was received. Therefore, the rejection of claims 1-15, 17—18, 20-30, 32-35 & 42-52 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 30—39, 60—72 & 92-97 of U.S. Patent No. 10/913,922, is overcome.

The rejection of claims 43, 46, 50 & 52 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 10/913,922 in view of Mori et al. U.S. Patent 6,794,082, is overcome.

### ***Allowable Subject Matter***

**Claims 1-9 & 42-44** are allowable over the prior art of record, because the prior art is silent to a primary battery comprising a cathode with an oxide containing the metals of the composition of claim 1.

**Claims 4-5** would be allowable over the prior art of record once the provisional double patenting rejection is overcome, because the prior art is silent to a cathode oxide, wherein an electrically conductive portion of carbon or metal oxide is coated on the cathode material.

Art Unit: 1745

**Claims 10-16 & 19** would be allowable over the prior art of record, because the prior art is silent to a primary battery comprising an cathode oxide, wherein the oxide comprises an alkaline earth metal and pentavalent bismuth. Claims 17-18 & 20-21 & 45-48 are allowed based on their dependency on claim 10.

**Claims 24-26 & 31** would be allowable over the prior art of record, because the prior art is silent to a primary battery comprising a cathode with an oxide containing the metals of claims 24-25 & 31 and pentavalent bismuth.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **22-23 & 27-30, 32-35 & 49-52** rejected under 35 U.S.C. 103(a) as being obvious over Passaniti et al. U.S. Patent 6,001,508.

With respect to **claim 22**, Passaniti et al. teach an electrochemical cell, comprising: a cathode comprising an oxide containing a transition metal and pentavalent bismuth such as  $\text{AgBiO}_3$  (col. 3, lines 45-55); an anode; and separator between the electrodes; and an alkaline electrolyte. See column

Art Unit: 1745

4, lines 25-35. The cathode material may contain electrochemically active material different from the oxide. See column 2, lines 30-40 and column 4, lines 55-65.

With respect to **claim 23**, the transition metal is silver. See column 2, lines 30-40 and column 4, lines 55-65.

With respect to **claim 27**, the cathode oxide is  $\text{AgBiO}_3$  (col. 3, lines 45-55).

With respect to **claims 28-30**, the oxide contains an electrically conductive surface coating of  $\text{Ag}_2\text{O}$ . See Figure 1.

With respect to **claim 32**, the anode is zinc (col. 4, lines 20-25).

With respect to **claim 33**, the electrolyte contains sodium or potassium hydroxide (col. 4, lines 25-35).

With respect to **claim 35**, the limitation with respect to the separator being capable of trapping soluble bismuth species, is an inherent function of the separator set forth in the prior art, because Passaniti teaches a polyvinyl alcohol separator and the battery could not function if the separator does not separate the active material of the cathode from the anode.

With respect to **claim 34**, the limitation with respect to the first material being capable of reducing the solubility of the oxide in the electrolyte, is considered an inherent function of the prior art set forth, because Passaniti teaches the same zinc oxide electrolyte additive set forth

Art Unit: 1745

by the instant claims. Support for this assertion is provided in MPEP 2112.01, “ [where] [p]roducts of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, since Passaniti teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. See *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). With respect to **claims 49-52** the cathodic additive includes NiOOH and manganese dioxide. See Table 4.

Passaniti teaches 2-12% NiOOH, however the reference does not expressly disclose a cathode composition including 50% by weight NIOOH.

However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ a weight percent of 50%, since it has been held that discovering an optimum value of a result effective variable involves only routine sill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA). The skilled artisan recognizes that the amount of NIOOH directly effects conductivity of the electrode.

### ***Response to Arguments***

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant assert that Passaniti is not anticipatory because it does not teach the weight percent of NiOOH. This assertion is correct however, the weight percent is an optimizable parameter as asserted hereinabove. Applicant also contends that the silver oxide is not part of the cathodic material. This argument is not persuasive. Although the silver oxide is a coating on the cathode, the material as identical to the instant claims, serves as a cathodic material. The claims do not distinguish the form in which the composition is contained. Therefore, with respect to silver oxide, the position stands.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The



Art Unit: 1745

fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER

MW

7/8/07